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SUMMARY

Geographic variation in Stipiturus malachurus (Shaw 1798) in Western Australia is discussed. The western isolate is divided into races westernensis, medius and hartogi. New information on distribution and habitat is given including its occurrence in sandplain near Mt. Holland.

FIELD AND STUDY

Predation of the Scorpion, *Urodacus hoplurus*, by the Lizard, *Varanus gouldi*.- *Urodacus hoplurus* Pocock, 1898, family Scorpionidae), one of the larger members of the Australian scorpion genus *Urodacus*, lives in the soil in burrows 8-16 inches deep, and seems to be widespread throughout the central, more arid parts of the Australian continent. On January 30, 1968, at noon, Mr A. M. Douglas and I observed a large lizard digging at a scorpion burrow 4 miles S. of Yalgoo (Lat 28°20'S, Long. 116°41'E). There were many burrows of *U. hoplurus* all over the area. The lizard was shot and its stomach contents were found to include two male and two female specimens of *U. hoplurus*. The anterior ends of the scorpions had been bitten but not severed from the bodies; one of the females was practically undamaged.

The scorpions seemed to have been recently ingested, a view supported by Dr G. M. Storr who identified the lizard as *Varanus gouldi* Gray, 1838, and added that these lizards feed during the daytime. The lizard (W.A.M. Registration No. R 30912) and the scorpions (Nos. 68-889 to 68-892) have been lodged in the Western Australian Museum. The figure shows (1) a burrow entrance of this species of scorpion, (2) the result of the digging up of a scorpion burrow by the lizard near where it was collected, and (3) the lizard with the scorpions from its stomach.

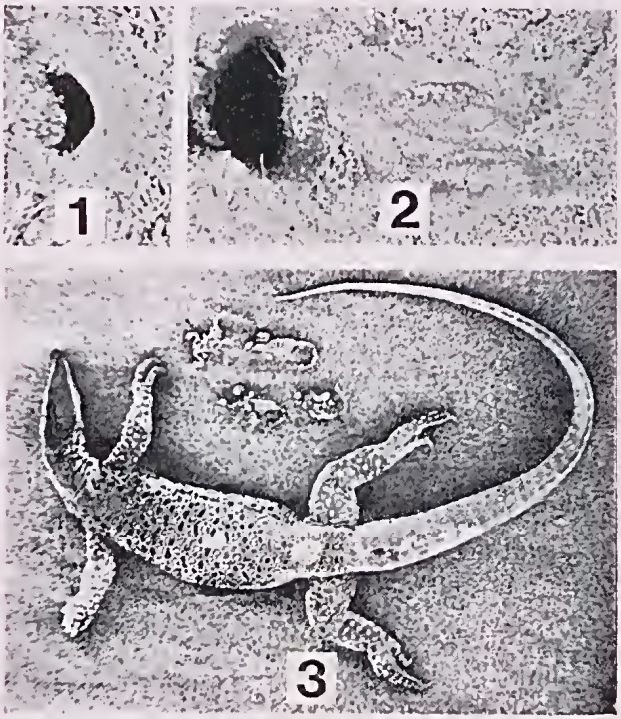
The stomach contents of the lizard also included a few pieces of ground-beetle, family Carabidae. The number of species of ground-beetle could not be ascertained with certainty, but one species of the genus *Philoscaphus* was present. While collecting specimens from burrows, I have dug some species of Carabidae out of their burrows in various parts of Western Australia. It is suggested that these lizards, *V. gouldi*, actively dig out and eat carabs as well as scorpions.

The only previous record I have come across of predation of *Urodacus* scorpions is as follows: four specimens of *U. novaehollandiae* Peters, 1861, were found with many other creatures in the stomach of a Tawny Frogmouth *(Podargus strigoides)* in King's Park, Perth (Serventy, D. L., *Emu*, 36, 1937: 75).

Varanus has also been noted as a predator on scorpions by Birulya, A. A. B. *(Fauna of Russia and Adjacent Countries.* Arachnoidea, Vol. 1, 1917) who refers to Walter's observations in the Transcaspian region that a large local lizard *Varanus griseus* Gaud. sometimes hunts scorpions.

Scorpions are generally thought to have few enemies because, for example, none of the small mammals is expected to dare to attack a scorpion, although some insectivores such as hedgehogs may hunt scorpions. Also according to Birulya *(op. cit.)* travellers report that in South Africa, baboons search for the large scorpions *Opisthophthalmus* under stones on mountains and voraciously eat these scorpions after being smart enough first to pull off the tails containing the poisonous sting.

—L. E. KOCH, Western Australian Museum, Perth.



1.—Burrow entrance (½ in. x 1¼ in.) of the scorpion *Urodacus hoplurus*. The scorpion enters from the right-hand side. 2.—The hole (about 3 in. x 6 in.) resulting from the digging up of one of these burrows by the lizard, *Varanus gouldi*. The claw marks made by the lizard are in the middle of the photograph. 3.—The lizard (total length 3 ft. 10 in.) with the four scorpions from its stomach.